

*Dedicated to the 100th anniversary
of founding the mineralogical collection
in the National Museum of Natural History
and 95 years since publishing
the First Museum catalogue*

**A catalogue of the mineral species in the National
Museum of Natural History, Sofia (Part 1)
Native elements, Sulphides and Sulphosalts,
Oxides and Hydroxides, Halogenides**

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Abstract. The new classified catalogue of mineral species is based on the systematics of KOSTOV (1993). It comprises all specimens registered in the Museum until 2001. Part 1 includes mineral species from the first four mineral classes: native elements, Sulphides and Sulphosalts, Oxides and Hydroxides, and Halogenides. Here 238 species, 10 varieties, and 5 secondary species are presented.

Key words: Catalogue, mineral species, native elements, sulphides, sulphosalts, oxides, hydroxides, halogenides, National Museum of Natural History

In 1902 Kurt Kamlah, grandson of Herman Angerchtain, a German merchant from Hamburg, made a present to the National Museum of Natural History (Museum of His Royal Highness Prince Ferdinand I at that time, founded 13 years earlier in 1889 by Prince Ferdinand I). The gift contained a rich collection of minerals. This set the beginning of the mineralogical section of the Museum. The collection included 724 specimens, which were collected during the second half of the 19th century. Most of the specimens derived from ore deposits in Europe - Andreasberg, Freiberg, Pibram, Transylvania, Idria, etc. This first collection and several smaller collections were described later in the first printed Museum Catalogue by the court dentist and outstanding geologist - mineralogist Dr. Wheeler. He used the sixth edition of the mineral

systematics of DANA (1901) for compiling the work (WHEELER, 1907). Dr Wheeler himself collected and added the first several specimens from Bulgaria to the mineral collection.

The exploitation of Bulgarian ore deposits started in the beginning of 20th century, which led to an increase in the number of specimens from Bulgaria. A mineralogical - geological exposition was opened in the Museum halls in October 1920 (BURESCH, 1953). After 1950 the Mineralogical collection was enriched with minerals from all over the world. The mineralogical collections were moved several times during the World War II air raids in 1943 and later in the 1950s due to the transfer of the Mineralogical department to the Geological Institute. Part of the old mineral specimens was damaged, lost or their original labels were mixed up.

Most of the new specimens obtained in the period 1950 - 1970 served as a basis of the new mineralogical exposition, opened after the restoration of the Museum in 1974 as an independent unit within the Bulgarian Academy of Sciences (PETRUSSENKO, 1989).

Nowadays the mineralogical collection numbers about 14 000 specimens collected from all over the world. The specimens are grouped in three funds: basic fund, fund for exchange and fund of research materials. Moreover, the collection includes meteorites and casts of meteorites - 7 specimens, about 1 500 rock samples and 40 precious and semi-precious stones of high quality.

Mineral specimens and collections of special interest are:

- The fullest set of mineral species, discovered and described for the first time in Bulgaria with Bulgarian names: the holotypes of *strashimirite*, *kostovite*, *hemusite*, *ardaite*, *orpheite*, *balkanite*, *bonchevite* (?), *vasilite*;

- The richest mineral collection from Madan ore region - 1082 specimens of unique galena, sphalerite, quartz and calcite crystal druses;

- The biggest collection (110 specimens of total weight about 2 tons) from "Surneshko kladenche" mine, Burgas ore region. It contains plate calcite crystals and druses of large size (some crystals reach dimensions of 35 cm) (KAROV, 1996);

- The largest crystals ever found in Bulgaria: *galena* - # (museum number) 1253 from mine "Fabrika", edge 12 cm; *emerald* #2507, from Urdini Lakes, Rila mountain, 9x2 cm; *amethyst* - #907, from Teshevo village, S. Pirin mountain, 20x11 cm; *kaolinite* - #429, from Glavanatsi village, Madzharovo region, 14 mm; *columbite* - #1036, from Vishteritsa quarry, West Rhodopi mountains, 20x17 cm; *muscovite* - # 735 Dolen village, Zlatograd region 14x31 cm; *pyrite* - #6928, from Madan ore region, 13.5x13.5x9 cm (KAROV, 1996).

The classification in the catalogue is based on the systematics of KOSTOV (1993) and some other manuals like LAZARENKO & VINAR (1975), FLEISCHER (1991), MANDARINO (1999), EVSEEV (2000), KOSTOV & MINCEVA-STEFANOVA (1981), PETRUSSENKO (1991), ESPENSHADE & MORRISON (1983) and some Internet sites. The specimens from the basic fund only are presented in this catalogue. It includes all specimens registered in the Museum until 2001. The last catalogue number is 7893.

The new Museum mineral catalogue will be issued in three parts. Part 1 includes mineral species, belonging to the first four mineralogical classes according to the systematics of KOSTOV (1993): Native elements, Sulphides and Sulphosalts, Oxides and Hydroxides, and Halogenides. Two hundred thirty eight species, 10 varieties, and 5 secondary species are presented here.

Legend:

Column: **Mineral classes, sub-classes, assemblages, groups, species and varieties**

- Names of mineral species are given by FLEISCHER (1991), afterwards their Bulgarian translation is given in brackets.

- All mineral species are in bold. For example: **Microlite**

- The mineral varieties are in bold and italic. For example: ***Yttromicrolite***

- Groups of not precisely determined minerals are in square brackets, bold and italic. For example: [***Indetermined secondary Mn mineralizations and concretions***]

- Mineral species or variety followed by "II" means species or variety of secondary importance in the sample. For example: **Birnessite II, Lapieite II**

Column: **Localities, region, country**

- The list of localities follows the scheme: it always begins with localities in Bulgaria, followed by localities in other European countries, Asia, Africa, North and South America, Australia and Antarctica.

- All localities in one region are separated by commas.

- All localities in one country are separated by semicolons.

- Countries are separated by dots.

Table 1
A catalogue of the mineral species in the National Museum of Natural History, Sofia (KOSTOV, 1993)
(part one)

Mineral classes, sub-classes, assemblages, groups, species and varieties	pieces	Localities, region, country
1	2	3
CLASS 1. NATIVE ELEMENTS		
1. Metals		
1.2. Nickel - Iron group		
Iron (Желязо)	4	Ozernaya Mt., Siberia, (Russia). Nivfag (Greenland).
Nickel (Никел)	1	New Caledonia, Pacific Ocean (France).
Awaruite (Аваруит)	4	Heazlewood, Tasmania (Australia).
1.4. Gold group		
- <i>Amalgam (Амалгам)</i>	1	Aspen, Colorado (USA).
Coper (Мег)	24	Vlaykov vrh, Tsar Asen mines - Panagyurishte reg.; Zidarovo mine, Burgas reg.; Kremikovtsi dep., Sofia reg.; Dragodan vill., Kyustendil reg. (Bulgaria). Rheinbreitbach (Germany). Swansea (Africa). Mufulira mine (Zambia). Congo. Bisbee, Arizona; Beech Creek, Oregon; Fresno County, California; Houghton County, Michigan (USA). El Hierro Pinar del Rio (Cuba). Santa Rita (Mexico). S America. Australia. Poldory.
Lead (Олово)	1	Langban (Sweden).
Silver (Сребро)	8	Sedmochislenski dep., Vratsa reg. (Bulgaria). Andreasberg; Erzgebirge; Hartenstein, Saxony (Germany). Pribram (Czech Republic). Japan.
Gold (Злато)	9	Glagovishka river, Trun reg. (Bulgaria). Transylvania (Romania). Radhausberg, Salzburg (Austria). Mongolia. Manica (Mozambique). S Africa. Sierra Gorda (Chile).
Auricupride (Аурикуприд)	1	Karabash, S Ural (Russia).
1.5. Mercury group		
Mercury (Жуџак)	3	Almaden (Spain).
2. Semi - metals and nonmetals		

1	2	3
2.1. Bismuth group Bismuth (Бисмут)	12	Schneeberg; Hartenstein, Saxony (Germany), Jachymov (Czech republic), Kalima (Congo), Victoria (Australia).
Antimony (Антимон)	2	Sinya bara, Chiprovtsi reg. (Bulgaria), Allemont, Isere (France).
Arsenic (Арсен)	13	Kosti vill., Bargas reg. (Bulgaria), Schlema; Schwarzenberg, Erzgebirge (Germany), Jachymov; Pribram (Czech Republic), Sarawak, Kalimantan isl. (Malaysia).
Stibarsen (Стубарсен)	6	Pribram (Czech Republic).
2.3. Sulfur group Sulphur (Сярa)	53	Klisura vill, Sofia reg.; Kenan dere mine, Smolyan reg. (Bulgaria), Mahov mine; Tarnobrzeg (Poland), Sicily; Naples; Katalina (Italy), Tenerife Isl. (Spain), Carpathian Mts. (Romania), L'vov reg. (Ukraina), Shor - Su (Uzbekistan), Gaurdak (Turkmenia), Azumi volcano (Japan), Dombe grande (Angola), La Soufriere volcano, Guadeloupe Isl. (Mexico), Turrialba (Costa Rica), Bandung (Indonesia).
Rosiclite (Росицкум)	1	Wentura County, California (USA).
2.4. Carbon group		
Diamond (Дуамант)	2	Yakutia (Russia), Shaba (Congo).
Graphite (Графум)	13	Dam lake Antonivanovtsi quarry, Smolyan reg. (Bulgaria), Slavkov (Czech Republic), Styria (Austria), Keivy, Kola pen. (Russia), N Mozambique, Quebec (Canada).
	2	Petrozavodsk (Russia).
	1	Russia.
- <i>Schungite</i> (Шунгит) 3. Carbides, Nitrides, Phosphides and Silicides Moissanite (синтетич) (Моасанум - синтетичен)		
CLASS 2. SULPHIDES AND SULPHOSALTS		
1. Metallic		
1.2. Ni-Co-Fe assemblage		
1.2.1. Axial		
1.2.1.1. Millerite group		
Millerite (Милеритум)	8	Kladno (Czech Republic), Glamorgan (England).

1	2	3
1.2.2. Planar		
1.2.2.1. Parkerite group		
- <i>Lapiteite II (Lanueum II)</i>		Hagendorf, Bavaria (Germany).
1.2.2.3. Mackinawite - Valleriite group		
Valleriite (Валерит)	1	Kafveltorp (Sweden). Phalaborwa, Transvaal (S. Africa).
Yushkinite (Юшкинит)	1	Pay-Khoy khrebet (Russia).
1.2.3. (Pseudo) isometric		
1.2.3.1. Orceelite - Heazlewoodite group		
Heazlewoodite (Хейзлвудит)	6	Heazlewood, Tasmania (Australia).
1.2.3.2. Pentlandite group		
Pentlandite (Пентландит)	3	Kola pen. (Russia).
1.2.3.3. Nickeline - Pyrrhotite group		
Breithauptite (Брайтхауптит)	1	Andreasberg (Germany).
Nickeline (Никелин)	8	Mansfeld; Schneeberg; Freiberg, Erzgebirge (Germany). Příbram; Medenec; Jachymov (Czech Republic).
Westerveldite (Вестервелдит)	1	Ilimaussağ (Greenland).
Pyrrhotite (Пирротин)	29	Petrovitsa mine, Madan reg.; Luybovna cheshma mine, Ardino reg.; Gyurgen dere mine, Madzharovo; Mihalkovo vill., Smolyan reg.; Enyovche mine, Kurdzhali reg.; Bela reka, N Pirin Mt. (Bulgaria). Baia Mare; Herja (Romania). Трепча (Yugoslavia). Lungan (Austria). Piemonte (Italy). Kola pen. (Russia). Edmunda (Mozambique). Quebec (Canada). Buranga (Rwanda).
Troilite II (Троилит II)	1	Westphalia (Germany).
1.2.3.4. Linnaeite group		
Linnaeite (Линнеит)	1	Siegen, Westphalia (Germany).
Siegenite (Зигенит)	1	Kambove, Shaba (Congo).
Carrallite (Каролит)	1	The bottom of Black sea.
Greigite (Грейгит)	1	
1.2.3.5. Lollingite group		
Rammelsbergite (Рамелсбергит)	2	Atrevida mine, Catalonia (Spain).
Pararamelsbergite (Парарамелсбергит)	1	Dobsina (Slovakia).
Safflorite (Сафлорит)	2	Schneeberg, Erzgebirge (Germany). Hodova Plana (Czech Republic).
Löllingite (Льоллингит)	8	Dolni Bory (Czech Republic). Kiatiala (Finland). Broken Hill;

1.2.3.6. Pyrite - Marcasite group

Pyrite (Пирит)

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Weinerts Property Byaawatha, Victoria; Tasmania (Australia).

Deveti Septemvri, Strashimir, Fabrika, Gradishte, Sharenka, Batantsi, Petrovitsa, Borieva Reka, Erma Reka, Gyudyurska mines - Madan reg.; Enyovche mine, Kurdzhali reg; Zvezdel, Kurdzhali reg.; Ruen mine, Osogovo Mt.; Rosen mine, Vurli bryag mine, Surneshko kladenche mine, Burgas reg.; Chiprovtsi mine, Montana reg.; Kenan dere mine, Smolyan reg.; Vitosha Mt.; Medet mine, Radka mine, Panagyurishte reg; Pcheloyad mine, Haskovo reg.; Strandzha mine, M. Turnovo reg.; Gyurgen dere mine, Madzharovo; Govedarnika mine, Luki; Obrochishte vill., Dobrich reg.; Ignatievo vill., Varna reg.; Narechenski bani vill., Smolyan reg. (Bulgaria). Neudorf; Hagendorf, Bavaria; Freiberg; Heidelberg; Germrode, Harz; Friedland; Mansfeld (Germany). Pribram; Horky; Hvaletice reg.; Kutna Hora (Czech Republic). Baia Mare; Cavnic; Hunedoara (Romania). Trepc (Yugoslavia). Dobrevo vill., Kratovo reg. (Macedonia). Xanthe; Kassandra pen. (Greece). Roznava (Slovakia). Krakow (Poland). Ambagasguas; Rio Tinto, Huelva; Soria; Navajun, Logrono (Spain). Ilmaussaq (Greenland). Binnal, Wallis (Switzerland). Winterswyk (Holland). Madneuli (Georgia). Akchatau dep. (Kazakhstan). Maikhura (Tadzhikistan). Ozernoye dep., Siberia (Russia). Hunan (China). Nanisivik mine, Baffin island (Canada). Sweetwater mine, Missouri; Sparta, Illinois; Magma mine, Arizona (USA). Chihuahua (Mexico). Huanini (Bolivia). Huanzala; Quiruvilca; Huaron; Casa Palca (Peru). Gyurgen dere mine, Madzharovo reg.; Shumen reg. (Bulgaria). Turoszow; Lower Silesia; Pomorzany (Poland). Sokolova; Komorany; Most (Czech Republic). Rudabanya (Hungary). Schlema (Germany). Atrevida mine, Catalonia (Spain).

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Marcasite (Марказит)

1.2.3.7. Cobaltite group

Cobaltite (Кобальмит)

5

Skiterud (Norway). Kipushi, Shaba (Congo). Ontario (Canada). Broken Hill (Australia).

2

Gersdorffite (Герсдорфит)

Dobsina (Slovakia). Bou-Azzer (Morocco).

1	2	3
1.2.3.8. Arsenopyrite group Arsenopyrite (Арсеницитум)	25	Gradishte, Strashimir, Koniski Dol mines - Madan reg., Ruen mine, Osogovo Mt.; Govezhda mine, Montana reg. (Bulgaria). Freiberg (Germany). Kutna Hora (Czech Republic). Lungau (Austria). Trepa (Yugoslavia). Panasqueira dep. (Portugal). Darasun dep., Transbaikalia (Russia). Chihuahua (Mexico). Gudmundstorp (Sweden).
Gudmundite (Гудмундитум) 1.2.3.9. Skutterudite group Skutterudite (Скюттерудитум)	1 21	Pribram; Medenec; Hodova Plana; Jachymov (Czech Republic). Schneeberg, Erzgebirge (Germany). Atrevida mine, Catalonia (Spain). Irtem (Morocco). Erzgebirge (Germany). Slovakia.
- <i>Chloanthite (Хлоантитум)</i> 1.3. Ti-K-Mn assemblage 1.3.1. Axial 1.3.1.1. Raguinite group Rasvumite (Расвумитум) 1.3.3. (Pseudo) isometric 1.3.3.1. Alabandite group Alabandite (Алабандитум) 1.4. Mo-W-Sn assemblage Molybdenite (Молибденитум)	5 2 2 29	Rasvumchorr, Khibiny, Kola pen. (Russia). Obrochishte vill., Dobrich reg. (Bulgaria) Vlaykov vrah, Panagyurishte reg.; Vitosha Mt., Plana Mt. - Sofia reg.; Burdise mine, M. Turnovo reg.; Bukite mine, Osogovo Mt.; Samurski dol, Chepelare, Smolyan reg.; Bliznaka Lake, Rila Mt. (Bulgaria). Krupka; Teplice reg. (Czech Republic). Xanthe (Greece). Catalonia (Spain). White Sea reg.; Turnaus, Caucasus Mt. (Russia). Ondor-Tsagan (Mongolia). Zambezia (Mozambique). Pinal County, Arizona (USA). Kingsgate, New South Wales (Australia).
1.5. Zn-Pb-Cu assemblage 1.5.2. Planar 1.5.2.1. Covellite group Covellite (Ковеллитум)	10	Vlaykov vrah, Radka mines, Panagyurishte reg. (Bulgaria). Bor mine (Yugoslavia). Calabona mine, Sardinia (Italy). Summitville, Colorado (USA). Broken Hill (Australia).

1	2	3
Urnangite (Умангум)	1	Habri, Moravia (Czech Republic).
1.5.3. (Pseudo) isometric		
1.5.3.1. Domeykite group		
Cuprostibite (Купростибум)	2	Ilmiansaq (Greenland).
1.5.3.2. Chalcocite group		
Chalcocite (Халкоциум)	15	Vurli bryag mine, Burgas reg.; Chelopech dep., Pirdop reg.; Kremikovitsi dep., Sofia reg. (Bulgaria). Mansfeld (Germany). Vrancice (Czech Republic). mine De M'Passa (Congo).
Djurleite (Джурлеум)	2	Lagoon (S. Australia).
Digenite (Дигенитум)	2	Lagoon (S. Australia).
Berzelianite (Берцелианитум)	7	Bukov, Moravia (Czech Republic). Langban (Sweden).
1.5.3.3. Bornite - Chalcopyrite group		
Bornite (Борнитум)	9	Plakalnitsa mine, Vratsa reg.; Radka mine, Panagyurishte reg.; Strandzha mine, M. Turnovo reg. (Bulgaria). Polkovice (Poland). S Africa. Zacatecas (Mexico).
Chalcopyrite (Халкопиритум)	345	Strashimir, Konski Dol, Karaaliyevsko, Mogilata, Gyudyurska, Batantsi, Gradishte, Petrovitsa, Erma Reka, Osikovo, Kroushev Dol, Murzyan mines - Madan reg.; Vurli bryag, Surneshko Kladenche, Rosen mines - Burgas reg.; Elshitsa mine, Medet mine - Panagyurishte reg.; Enyovche mine, Zvezdel dep., Kurdzhali reg.; Kenan dere mine, Smolyan reg.; Davidkovo vill., Smolyan reg.; Kremikovtsi dep. Sofia reg.; Luybovna cheshma mine, Ardino reg.; Pcheloyad mine, Haskovo reg.; Strandzha mine, M. Turnovo reg.; Gyurgen dere mine, Momina skala mines - Madzharovo reg.; Sedmochislenitsi dep., Vratsa reg.; Chelopech dep., Pirdop reg. (Bulgaria). Andreasberg, Harz; Hessen; Westphalia; Freiberg; Hagendorf (Germany). Kladno (Czech Republic). Banska Stavnica (Slovakia). Lungau; Leogang, Salzburg (Austria). Trepca (Yugoslavia). Baia Mare (Romania). Kavelitorp; Kallmora (Sweden). Ilmaussaq; Ivigtut (Greenland). Madneuli (Georgia). Armenia. Dal'negorskoye dep.; Kola pen.; Norilsk; Ozernoye, Siberia (Russia). Seigoshi (Japan). Manica (Mozambique). Cave-in-Rock, Illinois; Hoxir, Arkansas; California (USA). Pinar del Rio (Cuba). Zacatecas

1	2	3
Stannite (Станнит=сманит)	3	(Mexico). Huancavelica (Peru). Rosebery, Tasmania (Australia). Cornwall (England). Verneksov (Czech Republic).
Betekhtinite (Бетехтинит)	1	Dzhezkazgan (Kazakhstan).
Briartite (Бриартит)	3	Kipushi, Shaba (Congo).
Sakuraiite (Сакурайит)	1	Hyogo pref. (Japan).
Cubanite (Кубанит)	1	Quebec (Canada).
Hemusite (Хемусит)	1	Kawazu mine (Japan).
1.5.3.4. Sphalerite - Wurtzite group	801	Mogilata, Fabrika, Osikovo, Strashimir, Baram, Petrovitsa, Batantsi, Konski Dol, Shareuka, Gradishte, Shumachevski Dol, Erma reka, Golyam Palas, Gyudyurska mines - Madan reg.; Arda, Momina skala, Gyurgen dere mines - Madzharovo reg.; Vurli bryag mine, Buigas reg.; Pcheloyad mine, Spahievo mine - Haskovo reg.; Kenan dere mine, Smolyan reg.; Ruen mine, Osogovo Mt.; Sedmochislennitsi dep., Vratsa reg.; Chiprovtsi mine - Montana reg.; Chelopech dep., Pirdop reg. (Bulgaria) Freiberg; Hagendorf; Oberharz; Andreasberg; Schlema; Raibal (Germany). Horky; Pribram; Kutna Hora; Nova ves, Moravia; Vrancea; Kladno (Czech Republic). Banska Stavnica; Poproch (Slovakia). Slonsk reg.; Olkusz; Trzeblinka, Silesia (Poland). Baia Mare; Herja; Cavnic (Romania). Trepca (Yugoslavia). Dobrovo vill., Kratovo reg. (Macedonia). Picos de Europa; Rio Tinto, Huelva; Ribes, Catalonia (Spain). Dannemora (Sweden). Kvanefield; Ilimaussaq; Ivigtut (Greenland). Glamorgan (England). Binn tal (Switzerland). Kvaninskoe dep. (Georgia). Dafnegorskoye dep.; Ozernoye; Darasun; White Sea reg. (Russia). Ikuno mine, Hyogo Pref. (Japan). Sidi Bou Auan; Sedzh - Hase mine (Tunisia). Mt. St. - Hilaire, Quebec (Canada). Little Rock, Arizona; Elmwood Mine, Tennessee (USA). Huaron; Sidirwilca (Peru). Broken Hill; Hercules mine, Mount Read, Tasmania (Australia).
Wurtzite (Вуртцит)	9	Arda mine, Madzharovo reg. (Bulgaria). Pribram (Czech Republic). Trzeblinka (Poland). Rachezhshusen, Marburg (Germany).
Greenockite (Грийноукит)	3	Hagendorf (Germany).

1	2	3
1.5.3.5. Enargite group Enargite (Енаргит)	5	Zapachitsa dep., near Bov vill.; Chelopech dep., Pirdop reg. (Bulgaria). Bor mine (Yugoslavia).
1.5.3.6. Tetrahedrite - Tennantite group Tetrahedrite (Тетраедрит)	6	Strashimir mine, Madan reg.; Persenk mine, Luki reg. (Bulgaria). Andreasberg (Germany). Cavnik (Romania). Roznava (Slovakia). Huaron (Peru).
Tennantite (Тенантит)	13	Zapachitsa dep., near Bov vill. (Bulgaria). Leogang, Salzburg (Austria), Cornwall (England). Kipushi, Shaba (Congo). Leonard mine, Montana (USA).
Freibergite (Фрайбергит)	1	Brand mine, Freiberg (Germany).
Renierite (Рениерит)	3	Kipushi, Shaba (Congo). Tsumeb (Namibia).
Sulvanite (Сулванит)	2	Pay-Khoy khrebet (Russia).
Germanite (Германит)	1	Tsumeb (Namibia).
1.5.3.7. Galena group Galena (Галенит)	775	Mogilata, Fabrika, Osikovo, Strashimir, Baram, Sharenka, Gradishte, Petrovitsa, Batantsi, Konski Dol, Shumachevski Dol, Gyudyurska, Erma Reka, Karaalievsko, Kroushev Dol mines - Madan reg.; Gyurgen dere, Momina skala mines - Madzharovo reg.; Kremikovtси dep. Sofia reg.; Boevo vill., Zlatograd reg.; Zvezdel dep., Kurdzhali reg.; Kenan dere mine, Smolyan reg.; Spahievo mine, Haskovo reg.; Govedarnika mine, Luki reg.; Ruen mine, Osogovo Mt.; Sedmochislenitsi dep., Vratsa reg. (Bulgaria). Freiberg, Erzgebirge; Oberharz; Schlema; Raibal; Neudorf, Andreasberg, Harz (Germany). Pribram; Nova ves, Moravia; Horky; Harachov (Czech Republic). Banska Stavnica (Slovakia). Olkusz; Trzeblinka, Silesia; Stanislawow (Poland). Bleiberg (Austria). Trepcа (Yugoslavia). Dobrevо vill., Kratovo reg. (Macedonia). Herja; Salnik (Romania). Binntal (Switzerland). Saint Prics, Saone et Loire (France). Kallmora; Sala (Sweden). Ilimassaq; Ivigtut (Greenland). Ozernoye, Siberia; Dal'negorskoye dep. (Russia). Seikoshi (Japan). Sidi Bou Auan; Gulbei (Tunisia). Tsumeb (Namibia). Oujda (Morocco). Little Rock, Arizona;

1	2	3
Clausthalite (Клаусталум)	2	Sweetwater mine, Missouri (USA), Huaron (Peru), Broken Hill; Kimberley (Australia).
Altaite (Алтаит)	1	Predborice; Horni Hostice (Czech Republic). Stanija (Romania).
1.6. Ag-Au-Hg assemblage		
1.6.1. Axial		
1.6.1.1. Balkanite group		
Balkanite (Балканит)	1	Sedmochislenski dep., Vratsa reg. (Bulgaria).
1.6.2. Planar		
1.6.2.1. Krennerite group		
Krennerite (Кренерит)	1	Sacaramb (Romania).
Sylvanite (Силванит)	3	Sacaramb; Baia de Aries (Romania).
Kostovite (Костовит)	1	Chelopech dep., Pirdop reg. (Bulgaria).
Nagyagite (Нагагит)	1	Sacaramb (Romania).
1.6.3. (Pseudo) isometric		
1.6.3.1. Argentite - Stromeyerite group		
Argentite (Аргентит)	3	Sacaramb (Romania), Příbram (Czech Republic), Brand mine, Freiberg (Germany).
Acanthite (Акантит)	1	Moldava (Czech Republic).
Hessite (Хесит)	1	Sado mine (Japan).
Cervelleite (Сервеллеит)	1	Sonora (Mexico).
1.6.3.2. Dyscrasite group		
Aurostibite (Ауростибит)	1	Krasna Hora, Příbram (Czech Republic).
1.6.3.3. Cinnabar group		
Cinnabar (Циннабарит)	24	Chiprovtsi mine, Montana reg. (Bulgaria), Rakosh (Czech Republic), Rudnany (Slovakia), Idria (Slovenia), Leogang (Austria), Almaden; Cindad Real (Spain), Nikitovka (Ukraine), Guizhou (China), Cinnabar Creek, Alaska (USA).
Tiemannite (Тиманнит)	1	Marysville, Utah (USA).
2. Sulphosalts		
2.1. Cu-Pb-(Fe,Sn) assemblage		
2.1.1. Axial		
2.1.1.1. Chalcostibite group		

1	2	3
Emplectite (Емплектитум)	1	Gunson copper mine (S. Australia).
2.1.1.2. Aikinite group		
Junoite (Джунюит)	1	Juno mine, Tennant Creek (N. Australia).
2.1.1.3. Galenobismutite group		
Неуровскизит (Хейровскит)	3	Horky (Czech Republic), Furka Pass (Switzerland).
Kobellite (Кобеллит)	1	Klatovy (Czech Republic).
Galenobismutite (Галенобисмутит)	1	Untersulzbachtal, Salzburg (Austria).
Вончевит (Вончевит) -	4	Narechenski bani vill., Smolyan reg. (Bulgaria).
(Discredited = Galenobismutite + Peckite)		
Eclaireite (Екларит)	1	Hollersbachtal, Salzburg (Austria).
2.1.1.4. Boulangerite group		
Boulangerite (Буланжерит)	10	Pribram (Czech Republic), Trepcă (Yugoslavia), Baia Mare (Romania), Donets Basin (Ukraine), Transbaikalia (Russia), Herja (Romania).
- <i>Plumosite (Плумозит)</i>	1	Palat vill., Blagoevgrad reg. (Bulgaria), Wolfsberg dep., Harz;
Zinkenite (Цинкенит)	6	Noumuler (Germany), Malo Zeleznô (Slovakia), Ribes de Freser, Catalonia (Spain), Darasun, Transbaikalia (Russia), Malo Zeleznô (Slovakia).
Robinsonite (Робинсонит)	2	Noumuler (Germany), Kutna Hora (Czech Republic), Poproch
Jamesonite (Джеймсонит)	8	(Slovakia), Trepcă (Yugoslavia), Cornwall (England), Darasun, Transbaikalia (Russia), Akaiva deposit (Japan), Machharovo reg. (Bulgaria).
Ardaite (Ардаит)	1	Sidi Bou Auan (Tunisia).
Gratonite (Грейтонит)	1	Burdise mine, M. Turnovo reg. (Bulgaria), Bottino mine, Tuscany (Italy).
Meneghinite (Менегинит)	3	Ribnovo vill., Blagoevgrad reg. (Bulgaria), Pribram; Kutna Hora
Berthierite (Бертиерит)	5	(Czech Republic), Valcros (France).
2.1.2. Planar		
2.1.2.1. Jordanite group		
Geocronite (Геокронит)	3	Waldsassen, Bavaria (Germany), Pribram (Czech Republic), Transbaikalia (Russia).
Jordanite (Йорданит)	2	Lengenbach, Binntal (Switzerland).
Aleksite (Алексит)	1	Keystone, Nye county, Nevada (USA).
2.1.2.2. Cylindrite group		

1	2	3
Cylindrite (Цилиндрит)	2	Huanani (Bolivia).
Franckeite (Франкеит)	2	NE. Russia, Huanani (Bolivia).
Lengenbachite (Ленгенбахит)	2	Lengenbach, Binntal (Switzerland).
2.1.3. Pseudoisometric		
2.1.3.1. Bournonite - Wittichenite group		
Wittichenite (Виттихенит)	2	Wittichen deposit (Germany).
Bournonite (Бурнонит)	9	Schlema; Westphalia (Germany). Pribram (Czech Republic). Trepca (Yugoslavia). Ribes, Catalonia (Spain). Quiruvilca (Peru). Lengenbach, Binntal (Switzerland).
Seligmanite (Селигманит)	1	
2.1.3.2. Plagionite group		
Semseyite (Семсейит)	3	Massiac; Haute-Joire (France). Herja (Romania).
2.2. Ag-(Pb,Tl)-Hg assemblage		
2.2.1. Axial		
2.2.1.1. Pavonite - Ramdohrite group		
Gustavite (Густавит)	2	Ilmaussaq (Greenland). Rotguldten, Salzburg (Austria).
2.2.2. Planar		
2.2.2.1. Pyrostilpnite group		
Smithite (Смитсит)	1	Haegendorf, Solothurn (Switzerland).
2.2.2.2. Lorandite group		
Lorandite (Лорандит)	4	Alsar (Macedonia).
2.2.3. Pseudoisometric		
2.2.3.1. Matildite - Freieslebenite group		
Miargyrite (Миаргерит)	2	Kutna Hora (Czech Republic).
Andorite (Андорит)	1	Baia Mare (Romania).
2.2.3.2. Pyargyrite - Polybasite group		
Pyargyrite (Пираргерит)	8	Pribram; Jachymov (Czech Republic). Freiberg (Germany). Quiruvilca (Peru).
Proustite (Прустит)	8	Pribram; Jachymov (Czech Republic). Schlema, Erzgebirge (Germany).
Polybasite (Полибазит)	2	Medenec (Czech Republic). Freiberg (Germany).
Pearceite (Пирсеит)	1	Moldava (Czech Republic).
Stephanite (Стефанит)	4	Pribram (Czech Republic).
3. Semi - Metallic		
3.1. Axial		

1	2	3
3.1.1. Bismuthinite - Stibnite group Bismuthinite (Бисмутинит)	9	Strandzha mine, M. Turnovo reg.; Urdini Lakes, Seven Rila Lakes, Rila Mt. (Bulgaria). Ustarasai (Uzbekistan).
Stibnite (Стибнит=антимонит)	52	Ribnovo vill., Blagoevgrad reg.; Drugoseltsi vill., Topolovgrad reg.; Maresnitsa, Haskovo reg.; Kremenitsa, Blagoevgrad reg.; Belasitsa Mt.; Madzharovo reg. (Bulgaria). Stolberg, Harz; Thuringia (Germany). Pribram (Czech Republic). Pezinok (Slovakia). Cavnic; Baia Mare; Baiut (Romania). Alsar (Macedonia), near Belgrade (Serbia). Drama reg. (Greece). Murat-Dag (Turkey). Pereta and Cetine mines, Tuscany (Italy). Kadamdzhai (Kirghisia). Hunan Prov. (China). Hillgeone, New South Wales (Australia). Sarawak, Kalimantan isl. (Malaysia). Nishinomaki mine, Gumma pref. (Japan).
Вакбауашилит (Вакабаяшилит)	2	
3.2. Planar		
3.2.1. Tetradyumite group Tetradyumite (Тетрадумит)	1	Karnten (Austria).
3.2.2. Orpiment group Getchellite (Гетчелит)	1	Khaidarkan (Kirghisia).
Orpiment (Орпимент)	24	Maresnitsa, Haskovo reg. (Bulgaria). Banat (Romania). Taurus (Turkey). Hall, Tyrol (Austria). Loukthumi (Georgia). Khaidarkan (Kirghisia). Men-Kyule, Yakutia (Russia). Quiruvilca (Peru).
Realgar (Реалгар)	18	Maresnitsa, Haskovo reg.; Madzharovo reg. (Bulgaria). Andreasberg (Germany). Moldova Noua (Romania). Alsar (Macedonia). Albania. Binntal (Switzerland). Siena (Italy). Chernogolovo mine (Ukraine). Loukthumi (Georgia). Khaidarkan (Kirghisia).
4. Oxysulphides		
Kermesite (Кермесит)	6	Clausthal, Harz (Germany). Pezinok (Slovakia).
Sarabauite (Сарабаумит)	1	Sarawak, Kalimantan isl. (Malaysia).

CLASS 3. OXIDES AND HYDROXIDES

1. Metallic oxides and hydroxides

1.1. Be-Al-Mg assemblage

1.1.1. ChrysoberyI group

1	2	3
Chrysoberyl (Хризоберил)	12	Urdini Lakes, Rila Mt.; Dolen vill.; Zlatograd reg. (Bulgaria). Marsikov, Moravia (Czech Republic). Alt Emporda, Catalonia (Spain). Val di Rabbi, Trento (Italy). Takovaya, Ural (Russia). Pennington County, South Dakota (USA).
1.1.2. Spinel group Spinel (Шпинель)	19	Bela reka, N. Pirin Mt. (Bulgaria). Aker (Sweden). Kukhilar, Pamir (Tadzhikistan). Aldan, Yakutia (Russia). L. Lherz.
Hercynite (Херцинит)	2	Bohemia (Czech Republic). Val di Fassa, Tyrol (Italy).
Gahnite (Гаанит)	5	Vishteritsa quarry, W. Rhodopi Mts.; Vishnevo vill., Smolyan reg.; Smilovene mine, Koprivshitsa reg. (Bulgaria).
1.1.3. Corundum group Corundum (Корунд)	21	Trebice, Bohemia; Moravia (Czech Republic). Sivets, Prilep;
- <i>Ruby (Рубин)</i>	23	Selechka Mt. (Macedonia)
- <i>Sapphire (Сапфир)</i>	12	Naxos Isl. (Greece). Yakutia; Ilmeny, S. Ural (Russia). Karatau Range (Kazakhstan). Ban Houei Sai (Laos). Manica (Mozambique).
- <i>Leucosapphire (Левкосапфир)</i>	1	Harts Range, Northern Territory (Australia).
- <i>Emery II (Шмургель II)</i>	1	
Diaspore (Диаспор)	8	Spahievo mine, Haskovo reg. (Bulgaria). Selechka Mt. (Macedonia). Kytahya (Turkey). Dolni Bory (Czech Republic). Banska Stavnica (Slovakia).
Böhmite (Бьомит)	2	Java Isl. (Indonesia). Norway.
Gibbsite (Гибсит)	2	Gamba (Brazil). Java Isl. (Indonesia).
1.1.4. Högbohmite group		
Högbohmite (Хьогбюмит)	1	Vallatjvaratj (Sweden).
Hibonite (Хибонит)	2	Esiva (Madagascar).
Magnetoplumbite (Магнетонплумбит)	1	Langban (Sweden).
1.1.5. Periclase - Brucite group		
Periclase (Периклаз)	3	Monte Somma, Vesuvius (Italy). Synthetic.
Brucite (Бруцит)	8	Kumanovo (Macedonia). E. Pyrenees (Spain). Trento (Italy). Langban (Sweden). Dal'negorskoye dep.; Khabarovsk territory (Russia). Khromtau (Kazakhstan).
Theophrastite (Теофрастит)	4	Lord Brassey mine, Heazlewood, Tasmania (Australia).
Jamborite (Джамборит)	1	Bologna (Italy).

1.2. Fe-Mn-V assemblage
 1.2.1. Magnetite - Chromite group
Magnetite (Магнетит)

63	Seven Rila Lakes, Rila Mt.; Zeleni rid, Rila Mt.; Krumovo vill., Yambol reg.; Krepost vill., Haskovo reg.; Bela reka, N. Pirin Mt.; Kremikovtisi dep., Sofia reg.; Rosen mine, Burgas reg.; Dzhebel vill., Kurdzhali reg.; Vlodaya vill., Sofia reg.; Kroyachevo vill., Ardino reg.; Strandzha mine, M. Turnovo reg. (Bulgaria). Rubeland, Harz (Germany). Vlastejovice; N. Moravia (Czech Republic). Salzburg; Tyrol (Austria). Banat (Romania). Ruda glava (Yugoslavia). Capo Calamita, Elba (Italy). Kiruna dep. (Sweden). Krivoi Rog (Ukraine). Kovdor, Kola pen.; Ural (Russia). Dashkesan dep. (Azerbaijan). Annapurna peak, Himalayas (Asia). Tamagot mine (Mauritania). Phalaborwa, Transvaal (S. Africa). Arkansas (USA). Minas Gerais (Brasil). Iron Monarh mine. Lord Brassey mine, Heazlewood, Tasmania (Australia).
	Krzemionka (Poland). Mushugoi Huduk (S. Mongolia).
	Franklin mine, New Jersey (USA).
53	Dobromirski dep., Zlatograd reg.; Yakovitsa vill., Kurdzhali reg., Golyamo Kamenyane vill., Krumovgrad reg. (Bulgaria). Waldenburg (Germany). Sudetes Mt. (Poland). Radusha (Macedonia). Guleman; Erzecht (Turkey). Saranovskoye dep., Ural (Russia).
76	Kremikovtisi dep., Sofia reg.; Dobromirski dep., Zlatograd reg.;
29	Rosen, Cherveno zname, Vurli bryag mines, Burgas reg.; Krepost vill., Haskovo reg.; Breznik, Sofia reg.; Buhovo vill., Sofia reg.; Bov vill., Sofia reg.; Tsurvaritsa vill., Kyustendil reg.; Trun reg.; Strandzha, Propada mines, M. Turnovo reg. (Bulgaria). Andreasberg, Harz; Ilmenau, Thuringia; Osnabruck; Lam-dil; Hagedorf, Bavaria (Germany). Pribram; Rakosh; Horni Blatna (Czech Republic). Rzhanovo; Damyan mine (Macedonia). Laurium (Greece). Rio Marina, Elba Isl. (Italy). Jumillia (Spain). Egremont, Cumbria; Glamorgan (England). Gotthard tunnel; Aegintal; Binntal (Switzerland). Ilimaussa (Greenland). Krivoi Rog

- *Titanomagnetite (Титаномагнетит)*
Franklinite (Франклинит)
Chromite (Хромит)

2

2

53

1.2.2. Hematite group
Hematite (Хематит)
 - *Specularite (Спекуларит)*

76

29

		(Ukraine). Shabry, Ural (Russia). Spring creek Honde (Mozambique). Anti-Atlas Mt. (Morocco). Saia (Angola). Zaghouan (Tunisia). N'Chwaning mines (S. Africa). Zuerat (Mauritania). Quebec (Canada). La Paz County, Arizona; Arkansas (USA). Minas Gerais (Brasil). Copper Mine (S. Australia).
Goethite (Гётитум)	65	Kremikovtsi dep., Sofia reg. (Bulgaria). Eisern, Siegen; Thuringia; Harz (Germany). Pribram; Vrancea; Krasnohorske Podhradie (Czech Republic). Minas Gerais (Brasil). Anti-Atlas Mt. (Morocco). Atterode, Quissama-Libolo (Angola). Akjoujt reg. (Mauritania). Dundas, Tasmania (Australia).
Lepidocrocite (Лепидокрокитум)	8	Kremikovtsi dep., Sofia reg. (Bulgaria). Harz (Germany). Cornwall (England).
Heterogenite (Хетерогенитум)	1	Shaba (Congo).
1.2.3. Bixbyite - Manganite group - [Undetermined secondary Mn mineralizations and concretions] - [Неопределени вторични Mn - ви минерализации и конкреции]	10	Kremikovtsi dep., Sofia reg.; Enyovche mine, Kurdzhali reg.; Ignatievo vill., Varna reg. (Bulgaria). Plevna vill. (Greece). Ural (Russia). Tachgagalt (Morocco). Gelb Mogreni (Mauritania).
Manganite (Манганитум)	9	Kremikovtsi dep., Sofia reg.; Ignatievo vill., Varna reg. (Bulgaria). Ilmenau, Thuringia; Ilfeld, Harz (Germany).
1.2.4. Braunitite - Hausmannite group Braunitite (Браунитум)	2	Onrenstock, Thuringia (Germany). Fukushima (Japan).
Hausmannite (Хаусманитум)	3	Ilmenau, Thuringia (Germany).
Marokite (Марокитум)	3	Tachgagalt (Morocco).
Chalcorphanite (Халкофанитум)	5	Kremikovtsi dep., Sofia reg.; Enyovche mine, Kurdzhali reg.; Madzharovo reg. (Bulgaria). Franklin, New Jersey (USA).
1.2.5. Pyrolusite - Hollandite group Pyrolusite (Пиролузитум)	16	Kremikovtsi dep., Sofia reg.; Enyovche mine, Kurdzhali reg. (Bulgaria). Ilmenau, Thuringia; Schwarzenberg, Erzgebirge; Hagendorf, Bavaria (Germany). Transylvania (Romania). Karlsberg (Sweden). N. Ural (Russia). Kochash vill., Harmanli reg. (Bulgaria). Mistake mine, Arizona (USA).
Ramsdellite (Рамсделитум) Cryptomelane (Криптомелан)	4 1	Marsov (Czech Republic).

Hollandite (Холандитум)	2	Vallatjavaratj (Sweden). Overhang mine, Queensland (Australia).
Coronadite (Коронадитум)	3	Grove Hill (Australia).
Birnessite II (Бирнесситум II)	1	Mt. St. Hilarie, Quebec (Canada).
Rancieite (Рансиеитум)	1	Baia Sprie (Romania).
Todorokite (Тодорокитум)	1	Hagendorf, Bavaria (Germany).
Romaneschite (Романешитум=псиломелан)	17	Kremikovtisi dep., Sofia reg.; Enyovche mine, Kurdzhali reg. (Bulgaria). Ilmenau, Thuringia; Ilfeld, Harz (Germany). Stanislawow (Poland). Broken Hill (Australia).
1.3. Ti-Nb-Zr assemblage		
1.3.1. Rutile group		
Rutile (Рутитум)	24	Marchovo vill., Teshevo vill., G. Delchev reg.; Divisilovo vill., Krumovgrad reg.; Lozen Mt., Vitosha Mt., Sofia reg.; Turiya vill., Kazanluk reg.; Chepelare, Smolyan reg.; Ihtiman reg. (Bulgaria). Dobra Voda (Czech Republic). Salzburg (Austria). Binntal; Stalvedrostollen; Iragna (Switzerland). El Figuero, Catalonia (Spain). Irpeics (France). Kapudzhuuk; Pargachai dep. (Azerbaijan). Mt. St. Hilarie, Quebec (Canada). Minas Gerais (Brazil). Bobruvka, Moravia (Czech Republic). Genoa (Italy). Trient (Switzerland).
Brookite (Брукитум)	5	Vitosha Mt., Sofia reg. (Bulgaria). Mala Moravka, Moravia (Czech Republic). Liguria (Italy). Mont Blanc; Graubunden; Ticino; Wallis (Switzerland).
Anatase (Анамаз)	8	Erzgebirge (Germany). Cinovec mine; Horni Slavkov; Krachno (Czech Republic). Cornwall (England). Altai Mts.; Chukotka pen. (Russia). Mongolia. Dalan (Somalia). Gatumba (Rwanda). Viloko mine (Bolivia). Inverell Area, New South Wales (Australia). Bangka mine, Sumatra Isl. (Indonesia).
Cassiterite (Касситеритум)	33	Kovdor dep., Kola pen. (Russia). Minas Gerais (Brazil).
Badeleyte (Баделеитум)	3	Kola pen. (Russia).
Belyankinite (Белянкинитум)	1	Tazheran massif, Siberia (Russia).
Tazheranite (Тажеранитум)	1	Vishteritsa quarry, W. Rhodopi Mts.; Smilovene quarry, Koprivshtitsa reg. (Bulgaria). Hagendorf, Bavaria (Germany).
1.3.3. Columbite - Tantalite group		
Columbite (Колумбитум) - Tantalite (Танталитум)	18	

Vodginite (Воджинит)		Ilimaussaq (Greenland), Zaporozh'ye reg. (Ukraine), Ilmeny, Ural (Russia), Zimbabwе, Alto Ligonha (Mozambique), Wodgina (Australia).
Ixiolite (Иксиолит)	2	Kovdor dep., Kola pen. (Russia), Tanco mine, Manitoba (Canada).
Thoreaulite (Торолум)	1	Alto Ligonha (Mozambique).
Gerasimovskite (Герасимовскит)	2	Congo.
1.3.4. Euxenite group	1	Lovozero, Kola pen. (Russia).
Euxenite (Евксенит)	5	Ingelsbo (Sweden), Ribauе (Mozambique), Antsirabe (Madagascar).
Fersmite (Ферсмит)	1	Khibiny, Kola pen. (Russia).
Brannerite (Браннерит)	1	Iragna (Switzerland).
Aeshynite (Евшинит)	4	Ticino (Switzerland), Hopfeldboden (Austria), Ilmeny, Ural (Russia).
Samaraskite (Самарскит)	5	Vishteritsa quarry, W. Rhodopi Mts.; Smilovene quarry, Koprivshitsitsa reg.; Dolno Osenovo vill., Blagoevgrad reg. (Bulgaria).
Tanteuxenite (Тантевксенит)	2	Chepelare, Smolyan reg. (Bulgaria).
Ishikawaite (Ишикаваит)	1	Seven Rila Lakes, Rila Mt. (Bulgaria).
Vigezzite (Вигеццит)	1	Val Vigizzo, Alps (Italy).
1.3.6. Ilmenite group	15	Vishteritsa quarry, W. Rhodopi Mts.; Topolovgrad reg., Sakar Mt.; Vitosha Mt., Sofia reg.; Chepelare, Smolyan reg. (Bulgaria), Harz (Germany), Norway, Khibiny, Kola pen. (Russia), Lac Tio, Quebec (Canada), Portland, Victoria (Australia).
Ilmenite (Илменит)	1	Jumilla (Spain).
Pseudobrookite (Псевдобрукит)	2	Crocker's well olary (S. Australia).
Davidite (Давит)	15	Zlatoust, Ural; White Sea reg.; Tazheran massif, Siberia (Russia). Bitchu, Okayama (Japan), Kimberley Divison (W. Australia).
1.3.7. Perovskite group	7	Ilimaussaq (Greenland), Transbaikalia, Siberia (Russia), Leushe (Zaire).
Perovskite (Перовскит)	2	Smilovene quarry, Koprivshitsitsa reg. (Bulgaria), Alto Ligonha (Mozambique).
1.3.8. Pyrochlore group	1	Kararfvet mine (Sweden).
Pyrochlore (Пироклоп)	1	Kola pen. (Russia).
Microchlore (Микролол)	1	Khibiny, Kola pen. (Russia).
- Yttromicrochlore (Иттромикролол)		
Plumbomicrochlore (Плумбомикролол)		
Bario-pyrochlore (Бариипироклоп)		

1	2	3
1.3.9. Fergusonite group		
Fergusonite (Фергусонит)	2	Ytterby (Sweden). Ural (Russia).
1.4. Zn-Cu-Pb(U) assemblage		
1.4.1. Zincite - Tenorite group		
Zincite (Цинкит)	1	Franklin mine, New Jersey (USA).
Tenorite (Тенорит)	2	Kremikovtsi dep., Sofia reg. (Bulgaria). Pinal County, Arizona (USA).
Cuprite (Куприт)	28	Kremikovtsi dep., Sofia reg.; Vlaykov vrah, Tsar Aser mines - Panagyurishte reg. (Bulgaria). Reichenbach, Harz (Germany). Cornwall (England). Ekaterinburg, Ural (Russia). Erdenet (Mongolia). Manhinga (Angola). Shaba (Congo). Tsumeb (Namibia). Morenci, Arizona (USA). Adelaide (Australia). S. Ural (Russia). Bisbee, Arizona (USA).
Delafossite (Делафосит)	3	Mendip Hills, Somersetshire (England).
Crednerite (Креднерит)	1	Socorro County, New Mexico (USA).
Murchokite (Мърчокит)	1	?
1.4.2. Plattnerite group		
Massicot (Массикот)	1	Maricopa County, Arizona (USA). Kastelberg.
Minium (Миниум)	2	Bulgaria. Příbram; Petrovice; Slavkovice, Moravia (Czech Republic). Hagedorf (Germany).
1.4.3. Uraninite - Schoepite group		
Uraninite (Ураниум)	6	
2. Semi - metallic and nonmetallic oxides		
2.1. Senarmonite group		
Valentinite (Валентинит)	4	Belatsita Mt. (Bulgaria). Pezinok (Slovakia). Limoges (France). Algeria.
Bismite (Бисмит)	2	Johanngeorgenstadt, Saxony (Germany).
2.2. Bistromite - Schafarzkitite group		
Apuanite (Апуанит)	2	Val di Castello, Tuscany (Italy).
Namibite (Намбит)	1	Benambra, Victoria (Australia).
2.3. Stibiconite group		
Stibiconite (Стибиконит)	4	Kremenitsa, Blagoevgrad reg. (Bulgaria). Belvedere, Furkapass (Switzerland).
Bindheimite (Биндхаймит)	2	Vrancisce (Czech Republic). La Sanguinede, Herault (France).
Stetefeldtite (Стетемфелдлит)	3	Dundas, Tasmania (Australia).
Mopungite (Мопунгит)	1	Siena (Italy).

CLASS 4. HALOGENIDES

1. Fluorides

1.1. Fluorite group

Fluorite (Флуорит)

180

Mihalkovo vill., Yugovo vill. - Smolyan reg.; Palat vill., Blagoevgrad reg. (Bulgaria). Freiberg; Oberwolfach; Hagendorf; Pohla; Harz (Germany). Činovec; Vlastejovice; Bestvina; Moldava; Nedvedice, W. Moravia; Harachov (Czech Republic). Stregon; Stanislavow, Silesia; Kletno (Poland). Dinanzh (Belgium). El Papiol, Catalonia; Asturias (Spain). Elbachalm, Amertal (Austria). Laurium (Greece) Derbyshire (England). Ilimausaq (Greenland). Dal'negorskoye dep.; Transbaikalia, Siberia; White Sea reg. (Russia). Tashkent reg. (Uzbekistan). Kent (Kazakhstan). Kharairan, Khalih-Khalboo; Ondor-Tsagan (Mongolia). Human (China). Zriba; Zebra; Zagoan (Tunisia). Manica (Mozambique). Namibia. Monte Chivira (Angola). Quebec (Canada). Minerva Mine, Cave in Rock, Illinois (USA). Minas Santana, Sonora (Mexico). Lovozero, Kola pen.; Rasvumchorr Mt., Khibiny, Kola pen. (Russia). Kvanefield (Greenland).

Villiaumite (Виллюмит)

7

Gagarinite (Газаринит)

4

Zavaritskite (Заварицкит)

1

1.3. Cryolite group

Cryolite (Криолит)

29

Cryolithionite (Криолитионит)

2

Thomsonolite (Томсенолит)

7

Jarlite (Ярлит)

2

Chiolite (Хиолит)

1

Weberite (Веберит)

1

Ralstonite (Ралстонит)

1

Boggsildite (Бьюгсайдит)

1

Fluellite (Флуеллит)

3

1.4. Prosopite group

Prosopite (Прозонит)

2

Gearksutite (Гепарксунит)

1

Ilimaussaq; Iviglut (Greenland). Transbaikalia, Siberia (Russia).

Ilimaussaq (Greenland).

Ilimaussaq (Greenland). Transbaikalia, Siberia (Russia).

Ilimaussaq (Greenland).

Ilimaussaq (Greenland).

Ilimaussaq (Greenland).

Ilimaussaq (Greenland).

Richelle (Belgium). Kapunda (Australia).

Ilimaussaq (Greenland).

Ilimaussaq (Greenland).

1	2	3
Creedite (Крүгум)	2	Kazakhstan. Aquiles Cerdan, Chihuahua (Mexico).
2. Chlorides, Bromides and Iodides		
2.2. Na-Ca-K assemblage		
2.2.1. Halite group		
Halite (Халум)	55	Atanasovsko ezero, Burgas reg.; Provadiya reg. (Bulgaria). Rhon (Germany). Bochnia (Czech Republic). Wieliczka; Inowroclaw-Klodawa (Poland). Salmik; Telega (Romania). Sallent; Cardona mine, Catalonia (Spain). Cheshire (England). Artemovsk; Solotvino (Ukraine). Solegorsk (Byelorussia). Solikamsk dep. (Russia). Khodzha-Achkan (Kirghizia). Egypt. Salton Sea, California (USA). Sallent (Spain). Solegorsk (Byelorussia). Ural; Solikamsk dep. (Russia). Salton Sea, California (USA). Kladno (Czech Republic).
Sylvite (Силвум)	9	
Sal ammoniac (Салмуак)	1	
2.2.2. Carnallite group		
Carnallite (Карналум)	1	Sallent (Spain).
2.3. Cu-Ag-Pb-Hg assemblage		
2.3.1. Nantokite - Chlorargyrite group		
Chlorargyrite (Хлораргүрүм)	4	Broken Hill (Australia).
Iodargyrite (Йодаргүрүм)	2	Vrancis (Czech Republic). Broken Hill (Australia).
Tolbachite (Толбачум)	1	Kamchatka pen. (Russia).
2.3.2. Atacamite group		
Atacamite (Амакавум)	4	Quetena mine; Copiapo, Atakama (Chile). Sunson Mt., Port Augusta (S. Australia).
Paratacamite (Парамакавум)	1	Sierra Gorda (Chile).
2.3.3. Boleite group		
Boleite (Болеум)	2	Sierra Gorda (Chile).
2.3.4. Cotunnite - Matlockite group		
Mendipite (Менгүнум)	2	Mendip Hills, Somersetshire (England).
Laurionite (Лаурионум)	1	Laurium (Greece).
Nadorite (Надорум)	1	Hammam, N'Bails (Algeria).
Onoratoite (Оноратум)	1	Cetine di Cotormiano, Siena (Italy).

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**Каталог на минералните видове в Националния
природонаучен музей, София (част 1).
Самородни елементи, сулфиди и сулфосоли,
оксиди и хидроксиди, халогениди**

Чавдар КАРОВ, Илия ДИМИТРОВ

(Резюме)

Новият каталог на минералите в Националния природонаучен музей е базиран на систематиката на КОСТОВ (1993). Каталогът включва образците, инвентирани в основния минераложки фонд до 2001 г. Първата част включва първите четири минераложки класа - самородни елементи, сулфиди и сулфосоли, оксиди и хидроксиди, халогениди. От тези класове в каталога са представени 238 минерални вида, 10 разновидности и 5 вида с второстепенно значение в образците.